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# The Busy Body

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## The Energy for Physical Activity

**F**ifteen jumping jacks. Ten push-ups. Thirty minutes of basketball. Jog two miles. Where does the energy come from to carry out these activities?

All the energy the body needs to perform any type of physical activity comes from food in the form of calories. A calorie is simply the energy content of food. The three food sources that contribute calories are from the macronutrients, which are fat, carbohydrates and protein. The amount of calories in each food item is based on the amount of grams supplied by fat, carbohydrates and protein. Fat provides the most calories per gram at nine. Carbohydrates and protein each provide four calories per gram.



## Using Macronutrients for Physical Activity

**T**he body converts food into energy through a series of metabolic reactions. Although all three macronutrients supply energy for physical activity, different activities require different proportions of fat, carbohydrates and protein. The source of the fuel the body uses during physical activity depends on intensity and duration.

Carbohydrates provide about half of all the fuel muscles use during activity. Carbohydrates are necessary for all activities, particularly high intense activities, such as a 100-yard dash. Carbohydrates are also essential for endurance type activities, such as a 10-mile hike, but the proportion of fuel contributed by carbohydrate diminishes as intensity lessens, and duration increases. In addition to physical activity, carbohydrates also supply energy for the brain and nervous system. Quality food sources of carbohydrate include: fresh fruits and vegetables, beans, and whole grains.

### Reminder

- **Fat provides 9 calories per gram**
- **Carbohydrates provide 4 calories per gram**
- **Protein provides 4 calories per gram**

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# Using Macronutrients for Physical Activity, cont.

**F**at is primarily used by the body during low-to moderate-intense activities. As physical activity becomes longer in duration, the body naturally switches to using more fat than carbohydrates. The body prefers to use a higher proportion of fat as fuel during exercises that are sustained for long periods of time (typically activities that exceed 20 minutes). Quality food sources of fat include lean cuts of meat, poultry and fish.

Protein does not provide as much fuel for the body during physical activity as does fat and carbohydrate. Protein can provide fuel during endurance activities, as in a marathon. Protein is necessary, though, for those who are active, as it's essential to build and maintain muscle. Quality food sources of protein include lean cuts of meat, poultry and fish, beans, vegetables and low-fat dairy products.

Reference: Whitney, E., Rolfes, S., Reidnauer, M., Fisher, M. (2007). *Understanding Nutrition*. Mason, OH: Thomson-Wadsworth.



## Holiday Themed Games

### Santa's Sack

**T**o introduce some holiday fun and physical activity try Santa's Sack.

Divide the children into groups, with each group having its own large, red sack. Place the sacks around your center, away from the groups. Fill the sacks with bean bags, foam balls, foam shapes, balls of yarn, small stuffed animals, waffle balls, sponges, or anything that the children can safely toss and catch.

Have a staff member explain to the kids that Santa's sacks are full of "toys" to toss and catch. They will go to their assigned red sack, pull out a "toy" and toss it in the air and catch it. After a few minutes, have the kids partner up with someone in their group and have them toss the "toy" to each other. A staff member will bellow, "ho, ho, ho!" which will signal the children to return the "toys" to the Santa sack and move on to the next. Repeat until all the children have moved to each sack. To add to the joy, try some holiday music.



### Reindeer Tag

**R**eindeer Tag is similar to any tag game, but incorporates some of kids' favorite holiday images. Select kids to be either "Elf" taggers or "Reindeer." Supply enough area so the "Elves" can roam around the room trying to freeze the "Reindeer." When a child is tagged he or she is frozen, and put their thumbs on their head and spreads their fingers out like antlers.

In order to be unfrozen, free "Reindeer" approach the frozen "Reindeer" from the front and they sing one line from the song "Rudolph the Red Nosed Reindeer" together. After singing the line they are unfrozen and may rejoin the activity.

Santa's Sack and Reindeer Tag are used by permission of PE Central ([pecentral.org](http://pecentral.org)), the "premier site for physical education teachers."

# More Holiday Themed Games

Using the theme from a traditional holiday song, try “The Twelve Days of Fitness” to introduce some enjoyable physical activity.

Begin by selecting twelve consecutive days that will allow kids to be active. Choose an activity for each of the twelve days that the children will perform. Each day the kids can sing a “Twelve Days of Fitness” song and perform the activities that correspond with the song. The first day the kids begin with one activity, and as the days progress they complete the new activity in addition to the previous ones.

To assist the kids, create different cut-outs of various winter shapes, i.e. trees, stars, gloves, snowmen, snowflakes, sleds, snow-capped mountains, snow boots, etc. with a corresponding activity listed in the shape. Post the shapes, with listed activity, as the days progress.

There are a multitude of activities that can be used for the “Twelve Days of Fitness.” Here is a great example:

“On the \_\_\_\_ Day of Fitness my teacher said to do...”

12 jumps in place

11 side steps

10 swinging sways

9 gallop steps

8 runs in place

7 kicks in the air

6 hops on one leg

5 twisting arms

4 giant leaps

3 reaches for the sky

2 bends at the knee

And a giant leap in the air.



The Twelve Days of Fitness is used by permission of PE Central (pecentral.org), the “premier site for physical education teachers.”



## Crossword Puzzle Answers

T

he following are the answers to the crossword puzzle presented in the latest edition of Table Talk.

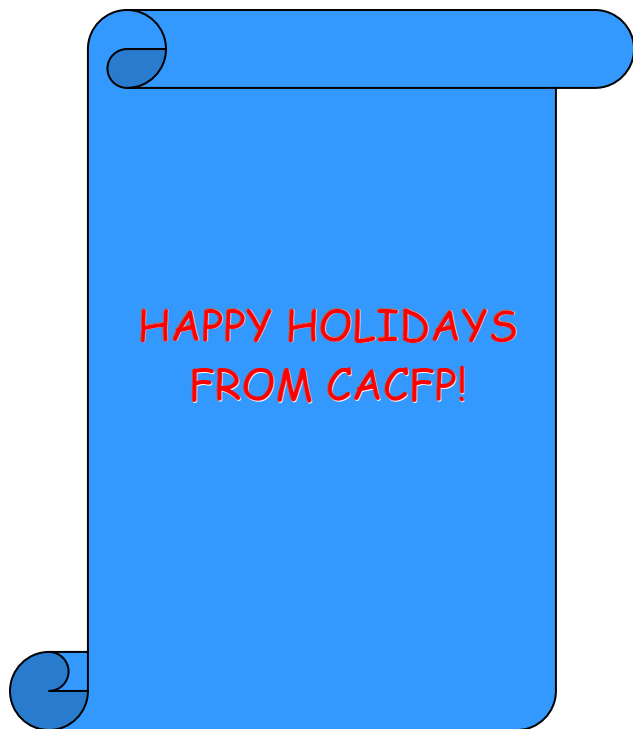
### ACROSS

1. high sugar
2. or
3. no
4. POS
5. end
6. daily
7. zero
8. blockclaim

### DOWN

1. honey
2. iron
3. separate
4. rate
5. FY
6. civil
7. IA
8. claim





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